

IN THE CLAIMS

Please cancel claim 8 without prejudice or disclaimer and amend the claims as follows:

1. (Currently Amended) System $[(1)]$ comprising an automotive fuse $[(5)]$ for interrupting at least one circuit in overload and at least one analog/digital converter $[(6)]$ for detecting and converting an analog measured value which is supplied at the input $[(7)]$ of the analog/digital converter $[(6)]$ into a digital measured value which is made available for further processing at the output $[(8)]$ of the analog/digital converter $[(6)]$, ~~characterized in that~~ wherein the input $[(7)]$ of the analog/digital converter $[(6)]$ is connected directly to the automotive fuse $[(5)]$, the automotive fuse $[(5)]$ producing the analog measured value for the analog/digital converter $[(6)]$, and the analog/digital converter $[(6)]$ being located in the immediate vicinity of the automotive fuse $[(5)]$ in order to digitize the measured value directly after its detection.

2. (Currently Amended) The system ~~of (1) comprising an automotive fuse (5) and an analog/digital converter (6) as claimed in claim 1,~~ wherein the automotive fuse $[(5)]$ and the A/D converter $[(6)]$ are located in a common housing $[(16)]$.

3. (Currently Amended) The system $[(1)]$ comprising an automotive fuse $[(5)]$ and an analog/digital converter $[(6)]$ as claimed in claim 1, ~~wherein~~ further comprising a processor ~~(9) is~~ connected to the output $[(8)]$ of the analog/digital converter $[(6)]$ on which the digitized measured value is present.

4. (Currently Amended) The system $[(1)]$ comprising an automotive fuse $[(5)]$ and an analog/digital converter $[(6)]$ as claimed in claim 2, ~~wherein there is also~~ further comprising a processor $[(9)]$ in the common housing $[(16)]$ of the automotive fuse $[(5)]$ and the analog/digital converter $[(6)]$.

5. (Currently Amended) The system [(1)] comprising an automotive fuse [(5)] and an analog/digital converter [(6)] as claimed in claim 1 [or 3], ~~wherein there is~~ further comprising a temperature sensor (10) in the vicinity of the automotive fuse [(5)].

6. (Currently Amended) The system [(1)] comprising an automotive fuse [(5)] and an analog/digital converter [(6)] as claimed in claim 2 [or 4], ~~wherein there is~~ further comprising a temperature sensor [(10)] in the common housing [(16)] of the automotive fuse [(5)] and the analog/digital converter [(6)].

7. (Currently Amended) The system [(1)] comprising an automotive fuse [(5)] and an analog/digital converter [(6)] as claimed in claim 5 [or 6], wherein the temperature sensor [(10)] is connected to the processor [((9))] in order to carry out temperature compensation on the measured value.

8. (Cancelled)

9. (New) A digital transducer for a data bus system comprising the system of claim 1.

10. (New) A system for measuring and transmitting values in a motor vehicle, the system comprising:

a data output device connected to a data bus, the data bus comprising:

at least one fuse connected directly to an A/D converter; and

a master unit for receiving data from the A/D converter.

11. (New) The system of claim 10, wherein the master unit comprises at least one selected from the group consisting of a personal computer and a personal digital assistant.

12. (New) The system of claim 10, wherein the data output device is selected from the group consisting of control devices and function units.

13. (New) The system of claim 10, further comprising:
a processor in communication with the A/D converter; and
a temperature sensor, positioned to measure ambient temperature in the vicinity of the fuse.
14. (New) The system of claim 10, wherein the at least one fuse and the A/D converter are contained in a common housing.
15. (New) A method of measuring and transmitting data in a motor vehicle comprising:
transmitting analog data from a device through a fuse directly to an A/D converter;
digitizing the data in the A/D converter; and
passing the digitized data to a unit for further processing.
16. (New) The method of claim 15, further comprising compensating the digitized data based upon ambient temperature in the area of the fuse.
17. (New) The method of claim 15, further comprising collecting the analog data from a device selected from the group consisting of control devices and function units